



California Regional Water Quality Control Board

Central Valley Region

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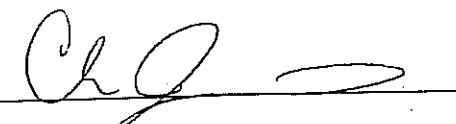


Arnold
Schwarzenegger
Governor

TO: Susan Fregien
Senior Environmental Scientist
Irrigated Lands Regulatory
Program

FROM: Chris Jimmerson
Environmental Scientist
Irrigated Lands Regulatory
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DATE: 23 March 2010

SIGNATURE: 

SUBJECT: 1 MARCH 2010 ANNUAL MONITORING REPORT - SAN JOAQUIN COUNTY
AND DELTA WATER QUALITY COALITION

On 1 March 2010, the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the San Joaquin County and Delta Water Quality Coalition (Coalition) 1 March 2010 Annual Monitoring Report (AMR). The time period discussed in the AMR covers the period October 1, 2008 through December 2009. This is the first AMR report required pursuant to Monitoring and Reporting Program (MRP) Order No. R5-2008-0005. The MRP took effect in January 2009, but also includes monitoring from the previous MRP Order. October through December 2008 data is included in this AMR since this data had not yet been placed in a report.

In this memorandum, staff presents comments pursuant to Order No. R5-2008-0005, and the Coalition's August 2008 Monitoring and Reporting Program Plan (MRPP), which includes subsequent modifications. Staff also reviewed the Monitoring and Reporting Program Plan MRPP modifications to determine monitoring compliance for the reporting period. The Executive Officer approved Modifications to the MRPP on 17 December 2008 (site exchange) and 30 March 2009 (monitoring reduction).

The review section titles below and section numbers in parenthesis are the same as the titles used in the AMR Checklist (see attached). Staff derived the checklist directly from the MRP Order. Staff used the checklist to verify that the content presented in the AMR met the minimum prescribed report requirements.

Staff revisited the 21 May 2009 Semi AMR staff comment letter and the Coalition's subsequent response to verify that the Coalition included the comments and recommendations in this AMR. Staff determined that the Coalition considered those comments and incorporated them in this AMR.

A. SAMR Component Name from Check List

1. Executive Summary (4.1- 4.3)

Staff verified that the Executive Summary included the required components of a brief summary of activities, monitoring results, and summarized conclusions.

California Environmental Protection Agency

2. Rainfall Records

a) January 2009 – March 2009 (7.2.1)

According to the MRP Order, page 10, "Monthly sampling events shall be scheduled to attempt to capture at least two storm runoff events per year. No more than one complete sample per month is required." Page 36 of the AMR detailed the Coalition's efforts to collect samples during the year's storm events. The Coalition uses 0.5 inches of rainfall within a 24 hour period to trigger a storm sampling event. Monthly sampling is prescheduled, and if a storm is forecasted within a week before a scheduled sampling event or within two days after the scheduled sampling event, the Coalition moves its sampling date to capture the storm. This strategy is necessary so that the laboratories will have the bioassay species and facilities available to conduct the tests. According to rainfall records, most storms did not produce enough runoff to collect a storm sample using the Coalition's trigger while the scheduling did not permit sample collection either. Even though in January 2009, rainfall produced enough runoff to capture a sample, the Coalition had already collected samples the week prior. A second event is not required according to the MRP. Consequently, the Coalition met the minimum requirements for attempting to capture storm events and the AMR provides a description on page 36 of efforts to capture the storm event. However, if the Coalition is not capturing storm events, the Coalition might not be able to determine if they are in compliance with the allocations and loading capacity (Diazinon and Chlorpyrifos Runoff in the Sacramento-San Joaquin Delta Waterways, Basin Plan page IV-36.03.01). The Coalition must still be able to meet the conditions of the MRP since dormant sprays are mostly applied during the storm season.

3. Quality Assurance Evaluation (16.1 – 16.2)

For chemistry analysis, the Coalition obtained 100% completeness for all the environmental samples. The correct number of duplicates and field blanks were collected above the minimum 5% rate. All quality assurance (QA) and quality control (QC) analyses met acceptance criteria for the reporting period at a level greater than 90%. This is tabulated in the Table 1 below. If the lab QC results were outside of the acceptability criteria range, these sample results were flagged, as indicated in the Coalition's data appendix, and thoroughly explained in the AMR text. The Coalition met all of the hold-times for all analytes.

Table 1

| | Field Blank | Field Duplicate | Method Blank | Lab Control Spike | Lab Control Spike Duplicate | Matrix Spike | Matrix Spike Duplicate | Lab Duplicate | Surrogate Recovery |
|--------------|-------------|-----------------|--------------|-------------------|-----------------------------|--------------|------------------------|---------------|--------------------|
| % Acceptance | 99.6% | 95.4% | 99.9% | 99.4% | 98.7% | 97.3% | 97.5% | 100% | 98.4% |

The QC results met the minimum acceptance criteria of 90%. The AMR thoroughly explains the QA/QC results for each constituent group. All field and analytical methods met the conditions of the Order. No sites were dry for the reporting period and one site could not be sampled due to lack of access (ferry service off-line). TIEs were performed

for all samples when survival or growth was 50 percent or less compared to the control and when the DO and ammonia levels were stable.

4. Toxicity and Chemistry Laboratory Reports (14.2.1, 14.3.1)

As per item 14 of the AMR components, the AMR included all signed laboratory reports in hard copy. However, as per a 2010 Quarterly Management Plan Meeting, the Coalition needs to include those reports in electronic form. Electronic copies of most laboratory reports were missing except October, November, and December 2009, which was provided with the AMR. Staff contacted the Coalition on 16 March 2010 to obtain the missing electronic laboratory reports. Staff received these on 1 April 2010 with the Management Plan Update Report.

5. All Required Constituents for Each Site Have Reported Results (9.8)

Table 4, page 21 of the AMR reports the normal monitoring schedule for the reporting period. The following inconsistencies have been noted by staff, which was discussed in the 4 May quarterly meeting. The Coalition revised Items (a) and (b) below on 4 June 2010 and will be revised in the next AMR.

- a) Walthall Slough is identified as a Core site. According to the Coalition's approved 30 March 2009 MRPP modification, it should be an Assessment site. The same inconsistency appears on page 31.
- b) Page 21 indicates Bear Creek, Duck Creek, Drain at Woodbridge, and Stanislaus as having sediment results. These sites were omitted from the monitoring schedule because of the 30 March 2009 MRPP modification. The table is inconsistent with the reported data.

Table 4 uses categories for the constituents monitored such as carbamates, organochlorines, and organophosphates. If the site is a Core site, the parameter of concern may be only a single constituent that belongs to that category needing analysis. The table should identify the constituent for a clearer table. Otherwise it could be interpreted that the entire group needs monitoring.

6. Monitoring Objectives and Design

a) Monitoring Site Photos (18.1)

Even though the photos for each monitoring event have been previously submitted with the Exceedance Reports, the MRP requires that monitoring photos be provided for each monitoring event. Appendix VIII did not include the full compliment of photos for the reporting period. The 2011 AMR must include a complete set of photos. Post review note: On 28 May, the Coalition submitted the required photos.

b) Datum Identified on Map as Either WGS1984 or NAD 1983 (8.1.4)

As per the Order, "the map datum must be either WGS 1984 or NAD83, and clearly identified on the map. The source and date of all data layers must be identified on the map(s)." The source and date of all the data layers is identified on the legend (page 16). However, the datum information is not clearly identified. The 2011 AMR must reference the datum on the maps.

c) Monitoring Parameters (6.2.2)

On page 5 and 28, the AMR indicated that the *E.coli* study determined that the source was predominately from human sources. This statement appears to be incorrect because *bacteroides* was the focus of the study, not *E.coli*. Statements regarding *E.coli* implicating human as a primary source do not align with the study design and interpretation of the data and actual results. Without further evaluation, the source of *E.coli* is not conclusive. This must be revised in the 2011 AMR.

7. Copy of Chain of Custody Forms (13.1 – 13.3)

The Coalition's Chain of Custody Forms submitted in the AMR met the reporting requirements of the Order.

8. Pesticide Use Data (19.2)

To investigate potential sources of exceedances, the Coalition evaluates upstream Pesticide Use Reports (PUR) information. As a result, the Coalition determined some of the potential sources of pesticide exceedances. However, not all exceedances were associated with pesticide applications such as DDT, aldrin, dieldrin and endrin, to name a few, because there are no registered products with these chemicals. Possible sources, sample dates, pesticide use dates and site proximity are adequately described in this section.

9. Actions Taken to Address Water Quality Exceedances (20.2)

During the reporting period, the Coalition participated in 22 meetings comprising 2,510 attendees, including some non-members. The Coalition is collaborating with County Agricultural Commissioners, Pest Control Advisors, and pesticide registrants to be more effective in providing recommendations of management practices.

10. Conclusions and Recommendations (22.3)

The Coalition has improved this section from the previous AMR by specifically addressing the five key program questions identified in the MRP. The Coalition did not include any recommendations. Recommendations will need to be provided in the next AMR.

On page 139, the AMR reports Beneficial Uses (MUN, AG, REC1, AQ Life) for the monitoring sites comparing 2004-2007, 2008, and the current reporting period. Staff compared the beneficial use status of years 2008 and 2009. On an annual basis, the beneficial use status improved in 2009 relative to 2008. However, water quality is not protective of all beneficial uses across most of the Coalition region. The AMR reporting period percent of exceedances are summarized in Table 2 and Table 3.

Table 2 Percent of Exceedances Per Zone

| Zone 1 | Zone 2 | Zone 3 | Zone 4 | Zone 5 | Coalition wide |
|--------|--------|--------|--------|--------|----------------|
| 1.30% | 2.40% | 7.80% | 6.00% | 3.90% | 4.20% |

Table 3 (*Total samples = 4)

| Analyte Group | Percent Exceedance |
|-----------------------|--------------------|
| Physical Parameters | 28.90% |
| <i>E. coli</i> | 16.80% |
| Carbamates | 0.00% |
| Organochlorines | 0.20% |
| Organophosphates | 1.10% |
| Group A Pesticides | 0.30% |
| Herbicides | 0.00% |
| Metals | 2.80% |
| Nutrients | 1.40% |
| Water Column Toxicity | 3.90% |
| Sediment Toxicity* | 25.00% |



Annual Monitoring Report Review Checklist

| Report Name: 1 March 2010 SJCDWQC AMR | | Reviewer Name: Chris Jimmerson | | | | |
|---------------------------------------|--|--------------------------------|------------------------|---------------------------|------------------------|---|
| Submittal Date: 3/1/2010 | | Review Date: 23 March 2010 | | | | |
| Item No. | AMR Component Name | A Accepted | U Unaccept- able | NA Not Applic- able | N Not Includ- ed | Page # (Section #) |
| | | | | | | Comments |
| | | | | | | Staff reference |
| 1 | Signed Transmittal Letter | | | | | |
| 1.1 | Transmittal letter included | X | | | | |
| 1.2 | Penalty of Purjury Statement | X | | | | |
| 1.3 | Signature of Authorized Coalition Representative | X | | | | |
| 1.4 | Dated | X | | | | |
| 1.5 | Submitted by Deadline | X | | | | |
| 1.6 | Discussion of exceedances | X | | | | |
| 1.7 | Discussion of actions taken or planned to correct noted exceedances (or reference to prior correspondence) | X | | | | |
| 2 | Title Page | | | | | |
| 2.1 | Report title | X | | | | |
| 2.2 | Date of the report | X | | | | |
| 2.3 | Monitoring date range covered by the report | | X | | | |
| 2.4 | Coalition Group name | X | | | | |
| 3 | Table of Contents | | | | | |
| 3.1 | List of sections or chapters with page numbers | X | | | | |
| 4 | Executive Summary | | | | | |
| 4.1 | Brief summary of activities | X | | | | 3,4 |
| 4.2 | Brief summary of results | X | | | | 4,5 |
| 4.3 | Brief summary of conclusions and recommendations | X | | | | States E.coli is predominantly from human sources |
| | | | | | | 5, 28 |

Annual Monitoring Report Review Checklist

| Item No. | | AMR Component Name | A Acceptable | U Unaccepta- ble | NA Not Applic- able | NI Not included | Page # (Section #) | Comments | Staff reference |
|---|--|---|-----------------|------------------------|---------------------------|--------------------|--------------------------|---|---|
| 5 Description of the Coalition Group Geographical Area | | | | | | | | | |
| 5.1 | | General description of relevant geographic features of the Coalition area, such as location and extent of area, major landforms, land uses, vegetation types, crop types, climate patterns, key waterways, and cities | X | | | | 9 | Total irrig acres sum for zones does not equal total irrig acres from pg 6. | |
| 6 Monitoring Objectives and Design | | | | | | | | | |
| 6.1 | | Monitoring Objectives | | | | | | | |
| 6.1.1 | | List or brief description of monitoring objectives based on MRP Plan | X | | | | 17, 37 | | States collected 1 storm event - MRP requires attempt to collect 2 per yr, but no more than 1 event/yr. |
| 6.1.2 | | Reference to MRP Plan section and page number where detailed monitoring objectives are found | | X | | | | | MRP cited, but not section or page number. |
| 6.1.3 | | Reference to QAPP section and page number where detailed monitoring objectives are found | | X | | | | | QAPP not referenced |
| 6.2 | | Monitoring Design | X | | | | | | |
| 6.2.1 | | Aligns with monitoring design description in MRP Plan | X | | X | | 5. 28 | E. coli study was not conclusive | |
| 6.2.2 | | Monitoring parameters | X | | | | | | |
| 6.2.3 | | Monitoring frequency | X | | | | | | |
| 6.2.4 | | Time period of monitoring covered in the report | X | | | | | | |
| 6.2.5 | | Brief description of Management Plan monitoring | X | | | | 136 | | |
| 6.2.6 | | Measurement strategies | X | | | | | | |
| 6.2.7 | | Source identification strategies | X | | | | | | States Coalition will use monitor data to determine if source is background or applied. When? |
| 6.2.8 | | Description of any deviation from the MRP Plan or QAPP | X | | | | | | |
| 6.2.2 | | Reference to MRP Plan section and page number where detailed monitoring design is found | X | | | | | | |

Annual Monitoring Report Review Checklist

| Item No. | | AMR Component Name | A Acceptable | U Unacceptable | NA Not Applicable | Page # (Section #) | Comments | Staff reference |
|----------|--|--------------------|-----------------|-------------------|----------------------|-----------------------|--------------------------|-----------------|
| 6.2.3 | Reference to QAPP section and page number where detailed monitoring design is found | | | X | | | | |
| 7 | Sampling Site Descriptions and Rainfall Records for the time period covered under the AMR | | | | | | | |
| 7.1 | <u>Sampling Site Descriptions</u> | | | | | | | |
| 7.1.1 | Site Name | X | | | | 31 | | |
| 7.1.2 | Site Identification Number | X | | | | 31 | | |
| 7.1.3 | GPS Coordinates | X | | | | 31 | | |
| 7.1.4 | Description of site representativeness (ie what geographic area, watershed, crop type does the site represent) | X | | | | 32 | | |
| 7.1.5 | Site-specific monitoring type (core, assessment, special project) information | X | | | | 31 | | |
| 7.1.6 | Any other unique information about the site or surrounding area | X | | | | 32-34 | | |
| 7.2 | <u>Rainfall Records</u> | | | | | | | |
| 7.2.1 | Graphic or narrative form, in inches of precipitation | X | | | | 36, 39-43 | | |
| 8 | <u>Location Maps(s) of sampling sites, crops, and land uses</u> | | | | | | | |
| 8.1 | <u>Map(s)</u> | X | | | | | | |
| 8.1.1 | Sampling Sites with informative level of detail | X | | | | | | |
| 8.1.2 | Crop Types with informative level of detail | X | | | | 10-16 | | |
| 8.1.3 | Land Uses with informative level of detail | X | | | | | Datum not identified | |
| 8.1.4 | Datum identified on map as either WGS 1984 or NAD 1983 | | | X | | | Source listed on legend. | 16 |
| 8.1.5 | Source and date of all data layers identified on map | X | | | | | | |
| 8.2 | <u>List or Table of Monitoring Site Information</u> | | | | | | | |
| 8.2.1 | Site name | X | | | | | | |
| 8.2.2 | Site identification number | X | | | | | | |
| 8.2.3 | GPS coordinates at latitude and longitude in decimal degrees to at least five decimal places | X | | | | | | |
| 9 | <u>Tabulated Results</u> | | | | | | | |

Annual Monitoring Report Review Checklist

| Item No. | AMR Component Name | A Acceptable | U Unaccepta- ble | N Not Includ- ed | NA Not Applic- able | Page # (Section #) | Comments | Staff Reference |
|----------|--|-----------------|------------------------|------------------------|---------------------------|--------------------------|----------|--------------------|
| 9.1 | Data is in tabular form | X | | | | | | |
| 9.2 | Data is clearly organized (ie readily discernable) | X | | | | | | |
| 9.3 | Tabulated results agree with the electronic data submittal results | X | | | | | | |
| 9.4 | Tabulated results agree with results discussed in the text | X | | | | | | |
| 9.5 | Previously reported exceedances match exceedances identified in the AMR | X | | | | | | |
| 9.6 | Water Hardness is reported for every water column sample | X | | | | | | |
| 9.7 | Hardness-based metals criteria are calculated correctly | X | | | | | | |
| 9.7.1 | Cadmium | X | | | | | | |
| 9.7.2 | Copper | X | | | | | | |
| 9.7.3 | Lead | X | | | | | | |
| 9.7.4 | Nickel | X | | | | | | |
| 9.7.5 | Zinc | X | | | | | | |
| 9.8 | All required constituents for each site have reported results | X | | | | | | |
| 9.9 | All toxic events were re-sampled and results reported | | | X | | | | |
| 10 | Data Discussion to Illustrate Compliance | | | | | | | |
| 10.1 | Data discussion to illustrate compliance with the CG Conditional Waiver terms and conditions | X | | | | | | |
| 10.1.1 | Where compliance not achieved, explanation of why required component not met | X | | | | | | |
| 10.2 | Data discussion to illustrate compliance with water quality standards and trigger limits | X | | | | | | |
| 10.2.1 | Where compliance not achieved, explanation of missing data and/or reason for non-compliance | X | | | | | | |
| 11 | Electronic data submitted in a SWAMP comparable format, either Option A or B | | | | | | | |
| 11.1 | Option A. Electronic submittal data package in spreadsheet format | | | | | | | |
| 11.1.1 | Lab data is entered and submitted within the ILRP SWAMP comparable data spreadsheets | | | X | | | | |
| 11.1.2 | ILRP SWAMP comparable field sheets in paper copy | | | X | | | | |
| | | | | | | | | Not using Option A |
| | | | | | | | | Not using Option A |

Annual Monitoring Report Review Checklist

| Item No. | | AMR Component Name | NA Nat Applicable | | | Page # (Section #) | Comments | Staff reference |
|----------|------------|---|-------------------|-----------------|----------------|--------------------|--------------------------|-----------------|
| | | | A Acceptable | U Unaccept able | N Not included | | | |
| 11.2 | | Option B. Electronic submittal data package in SWAMP database format | | | | | | |
| 11.2.1 | | All field and lab data is uploaded into a SWAMP comparable database | X | | | | | |
| 11.2.2 | | Electronic data is formatted to the most current Required Data Submission Format document | X | | | | | |
| 11.2.3 | | Field sample results for lab analyses are included (page 21 #2, MRP) | X | | | | | |
| 11.2.4 | | Field Quality Control Results | | | | X | | |
| | 11.2.4.1 | Spikes | | | | | | |
| | 11.2.4.2 | Blanks | X | | | X | | |
| | 11.2.4.3 | Surrogates | | | X | | | |
| | 11.2.4.4 | Duplicates | | | X | | | |
| | 11.2.4.5 | Replicates | | | | | | |
| 11.2.5 | | Laboratory Quality Control Results | | | | X | | Apdx III |
| | 11.2.5.1 | Spikes | | | | X | | |
| | 11.2.5.2 | Blanks | | | | X | | |
| | 11.2.5.3 | Surrogates | | | | X | | |
| | 11.2.5.4 | Certified Reference Materials | | | | X | | |
| | 11.2.5.5 | Duplicates | | | | X | | |
| | 11.2.5.6 | Replicates | | | | X | | |
| 11.2.6 | | Toxicity Analyses electronic submittal requirements | | | | X | | |
| | 11.2.6.1 | Individual sample results | | | | X | | |
| | 11.2.6.2 | Negative control summary results | | | | X | | |
| | 11.2.6.3 | Replicate results | | | | | | |
| | 11.2.6.4 | Toxicity test water measurements (if daily measurements are taken then min and max of the range must be reported) | X | | | | Reviewed for all species | |
| | 11.2.6.4.1 | reported pH measurements in toxicity test waters | X | | | | Reviewed for all species | |
| | 11.2.6.4.2 | reported ammonia measurements in toxicity test waters | X | | | | Reviewed for all species | |
| | 11.2.6.4.3 | reported temperature measurements in toxicity test waters | X | | | | | |

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| Item No. | AMR Component Name | A Acceptable | U Unaccept- able | N Not Included | NA Not Applic- able | Page # (Section #) | Comments | Staff reference |
|----------|---|-----------------|------------------------|----------------------|---------------------------|--------------------------|--|-----------------|
| | 11.2.6.4.4 reported DO measurements in toxicity test waters | X | | | | | Reviewed for all species | |
| 11.2.7 | Data not meeting project QA acceptance guidelines is flagged and includes brief notes detailing the problem in the Comments field | X | | | | | | |
| 12 | Description of sampling and analytical methods used | | | | | | | |
| 12.1 | Description of sampling methods used | X | | | | 55 | | |
| 12.2 | Description of analytical methods used | X | | | | 55 | | |
| 13 | Copies of chain-of-custody forms and sample receipt documentation | | | | | | | |
| 13.1 | Copies of all COCs are included | X | | | | Apx I | Reviewed 20% | |
| 13.2 | COCs are legible | X | | | | Apx I | Reviewed 20% | |
| 13.3 | COCs are completed accurately | X | | | | Apx I | Reviewed 20% | |
| 14 | Field Data Sheets, Lab Reports, Lab Raw Data | | | | | | | |
| 14.1 | Field Data Sheets | | | | | | | |
| 14.1.1 | If Coalition chose Option A for electronic data submittal package, field data sheets are the ILRP SWAMP comparable field data sheets (see 11.1) in paper copy | X | | | | Apx IX | | |
| 14.1.2 | Copies of all field data sheets are attached to AMR or provided electronically in attached CD (see 14.1.1) | X | | | | Apx IX | | |
| 14.1.3 | Field sheets are completely filled in | X | | | | Apx IX | | |
| 14.1.4 | Field sheets are legible | X | | | | Apx IX | | |
| 14.2 | Toxicity Lab Reports | | | | | | | |
| 14.2.1 | All toxicity lab reports included as attachments to the AMR OR electronically on a CD | | X | | | | Only Oct, Nov, Dec 2009 on CD, but all hard copy provided. | |
| 14.2.2 | All toxicity lab report copies submitted are complete | X | | | | | Reviewed Quarterly lab rpts. | |
| 14.2.3 | All toxicity lab reports are signed by authorized lab representative | X | | | | | Reviewed Quarterly lab rpts. | |
| 14.2.4 | Toxicity lab narrative describes all QC failures, analytical problems and anomalous occurrences | X | | | | | Reviewed Quarterly lab rpts. | |

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| Item No. | AMR Component Name | A Acceptable | U Unaccepta- ble | NA Not Applic- able | Page # (Section #) | Comments | Staff reference |
|----------|--|-----------------|------------------------|---------------------------|--------------------------|----------|------------------------------------|
| 14.2.5 | All raw lab data for acceptable toxicity tests is included | X | | | | | Reviewed Quarterly lab rpts. |
| 14.2.6 | All raw lab data for failed toxicity tests is included | X | | | | | Reviewed Quarterly lab rpts. |
| 14.2.7 | All original bench sheets showing results of individual replicates, such that all calculations and statistics can be reconstructed | X | | | | | Reviewed Quarterly lab rpts. |
| 14.2.8 | All QC sample results including field and lab blanks, lab control spikes, matrix spikes, field and lab duplicates, and surrogate recoveries are included | X | | | | | Reviewed Quarterly lab rpts. |
| 14.3 | Chemistry Lab Reports | | | | | | |
| 14.3.1 | All chemistry lab reports included as attachments to the AMR OR electronically on a CD | | X | | | | Only Oct, Nov, Dec 2009 on CD. |
| 14.3.2 | All chemistry lab report copies submitted are complete | X | | | | | |
| 14.3.3 | All chemistry lab reports are signed by authorized lab representative | X | | | | | Reviewed Quarterly lab rpts. |
| 14.3.4 | Chemistry lab narratives describe all QC failures, analytical problems and anomalous occurrences | X | | | | | 62-72 Coalition narrative adequate |
| 14.3.5 | All sample results for contract and subcontract labs including units, RLs and MDLs are included | X | | | | | |
| 14.3.6 | Sample preparation, extraction, and analysis dates are included | X | | | | | |
| 14.3.7 | All QC sample results including field and lab blanks, lab control spikes, matrix spikes, field and lab duplicates, and surrogate recoveries are included | X | | | | | |
| 15 | Associated laboratory and field quality control samples results | | | | | | |
| 16 | Summary of Quality Assurance Evaluation results | | X | | | | |
| 16.1 | Quality Assurance Evaluation for LAB Data | | | | | | |

Annual Monitoring Report Review Checklist

| Item No. | AMR Component Name | A Acceptable | U Unaccepta-ble | NA Not Applic-able Included | Page # (Section #) | Comments | Staff reference |
|----------|--|-----------------|--------------------|-----------------------------------|--------------------------|------------------------------|---------------------------|
| 16.1.1 | Acceptance criteria for all measurements of precision and accuracy are listed and coincide with ILRP requirements in MRP Attachment C, Appendix B | X | | | 62-72 | Coalition narrative adequate | |
| 16.1.2 | QA/QC results that did not meet acceptance criteria are identified in a table or narrative description that is prepared by the Coalition (not lab) | X | | | 62-72 | Coalition narrative adequate | |
| 16.1.3 | Discussion of how the failed QA/QC results affect the validity of the reported data | X | | | 62-72 | Coalition narrative adequate | |
| 16.1.4 | Discussion of corrective actions for QA/QC results that did not meet acceptance criteria is included | X | | | 62-72 | Coalition narrative adequate | |
| 16.1.5 | Calculation of completeness (percentage of QC data that met acceptance criteria and a determination of project completeness based on this) | X | | | | | |
| 16.1.6 | Document and discuss any adjustments made to acceptance criteria | X | | | | | |
| 16.1.7 | Laboratory exception reports are included when samples are reanalyzed due to exceedance of the linear range | X | | | | | |
| 16.2 | Quality Assurance Evaluation for FIELD Data | | | | | | |
| 16.2.1 | Acceptance criteria for all measurements of precision and accuracy are listed and coincide with ILRP requirements in MRP Attachment C, Appendix B | X | | | | | |
| 16.2.2 | QA/QC results that did not meet acceptance criteria are identified in a table or narrative description that is prepared by the Coalition (not lab) | X | | | | | |
| 16.2.3 | Discussion of how the failed QA/QC results affect the validity of the reported data | X | | | | | |
| 16.2.4 | Discussion of corrective actions for QA/QC results that did not meet acceptance criteria | X | | | | | MRP Order Attach. B pg 2; |
| 16.2.5 | Calculation of completeness (percentage of QC data that met acceptance criteria and a determination of project completeness based on this) | X | | | | | Attach. C |
| 16.2.6 | Document and discuss any adjustments made to acceptance criteria | X | | | | | |
| 17 | Flow Monitoring Method(s) | | | | | | |
| 17.1 | The method used to obtain flow measurement at each monitoring site during each monitoring event is listed | X | | | 54 | | |

Annual Monitoring Report Review Checklist

| Item No. | AMR Component Name | A Acceptable | U Unaccepta- ble | N Not included | NA Nat- Applic- able | Page # (Section #) | Comments | Staff reference |
|----------|--|-----------------|------------------------|-------------------|-------------------------------|--------------------------|---|-----------------|
| 18 | Monitoring Site Photos | | | | | | | |
| 18.1 | Photos are included for each monitoring site for every monitoring event, either electronically or in hard copy | X | | | | Apxd VIII | Missing photos for same events. All photos previously provided with exceedance rpts though. | |
| 18.2 | Each photo is clearly labeled with site ID and date | X | | | | Apxd VIII | For the photos provided | |
| 18.3 | Photos are descriptive and useful | X | | | | Apxd VIII | For the photos provided | |
| 19 | Summary of Exceedance Reports submitted during the reporting period and related pesticide use information | | | | | | | |
| 19.1 | Summary of Exceedance Reports submitted during the AMR period | X | | | | Apxd V | | |
| 19.1.1 | Summary includes all needed exceedance reports | X | | | | Apxd V | | |
| 19.2 | Pesticide Use Data | | | | | Apxd IV | | |
| 19.2.1 | Pesticide use data is included for all pesticide and toxicity exceedances occurring during the AMR time period (except those that fall under a Mgt Plan) | X | | | | | | |
| 19.2.2 | Pesticide use data is directly relevant to the monitoring sites where exceedances occurred | X | | | | | | |
| 19.2.3 | Pesticide use data includes all pesticides applied within the monitoring site drainage area during the four weeks prior to the measured exceedance | X | | | | | | |
| 20 | Actions Taken to Address Water Quality Exceedances | | | | | | | |
| 20.1 | Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included | X | | | | 127 | | |
| 20.2 | Actions taken to address the exceedances are adequate | X | | | | 127-131 | | |
| 21 | Status update on preparation and implementation of all management plans and other special projects | | | | | | | |
| 22 | Conclusions and Recommendations | | | | | | | |

Annual Monitoring Report Review Checklist